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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,465	02/22/2002	Edward Robert Perry	PERRY-010	1060

7590 01/12/2006

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EXAMINER
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PRONE, JASON D

ART UNIT	PAPER NUMBER
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3724

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/081,465	<b>Applicant(s)</b> PERRY, EDWARD ROBERT	
	<b>Examiner</b> Jason Prone	<b>Art Unit</b> 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/11/05</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

In the initial rejection, mailed 04 December 2003, it is noted that claims 1-8 were acted upon. Since this action was mailed new claims 17-23 have been added and were followed by a restriction. The elected claims 17-22 have not been acted on previously and, therefore, results in this Office action being made final.

#### ***Election/Restrictions***

1. Claims 1-16 and 23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group and/or species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 24 October 2005.

#### ***Specification***

2. The disclosure is objected to because of the following informalities: Limitation (g) of claim 22, was disclosed in original claim 8, however, the specification does not disclose "the depth of the corrugations being greater than the thickness of the wall by a ratio of greater than three to one". The specification must be amended to incorporate this limitation for clarity.

Appropriate correction is required.

#### ***Claim Objections***

3. Claims 20 and 22 are objected to because of the following informalities: On line 2 of claim 20, the phrase "the raised portions and the lowered portions" should be replaced with "the raised surfaces and the lowered surfaces". On lines 1-2 of limitation

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(g) in claim 22, the phrase "said wall" should be replaced with "a wall". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added phrase "small abrasive particles are a different material than the large abrasive particle" is not supported by the specification or is this limitation featured in one of the original claims. In light of the specification and original claims not supporting this limitation, the newly added subject matter is considered new matter.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 17, 18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishizuka (6,098,609).

In regards to claim 17, Ishizuka discloses the same invention including a saw blade (Column 1, Technical Field) comprising a matrix (Figs. 3A-D) for encapsulating large and small abrasive particles in the matrix (33, it is noted that all the portions labeled 33 are not exactly the same size. It is inherent that some of the items labeled 33 will be larger/smaller than other items labeled 33, therefore, 33 designates both large and small abrasive materials), the small abrasive particles being encapsulated inside the matrix in a high-density concentration (Figs. 3C and 3D), the blade being corrugated with substantially uniform thickness (31) and comprising raised surfaces and lowered surfaces (Fig. 3B), the lowered surfaces being parallel to and spaced laterally and longitudinally of the raised surfaces (Fig. 3B), and transition portions connecting the raised surfaces and the lowered surfaces (Fig. 3B).

In regards to claim 18, Ishizuka discloses the transition portions are at an angle to the raised and lowered surfaces (Fig. 3B).

In regards to claim 20, Ishizuka discloses the raised and lowered surfaces are substantially flat (Fig. 3B).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka in view of Tintelnot (5,971,841). Ishizuka discloses the invention but remains silent with

respect to the angle at which the transition portions interacts with the raised and lowered surfaces. Therefore, Ishizuka fails to disclose the transition portions are at a 45° angle to the raised and lowered surfaces.

Tintelnot teaches transition portions that are at a 45° angle to the raised and lowered surfaces (Column 5 lines 45-55). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Ishizuka with transition portions that are at a 45° angle to the raised and lowered surfaces, as taught by Tintelnot, to allow the raised and lowered surfaces to be separated laterally and longitudinally with the smallest transition portion and also to maintain symmetry throughout the blade.

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka in view of Hagan (5,997,597). Ishizuka discloses the invention but fails to disclose the small abrasive particles are a different material than the large abrasive particles. In view of the fact that the piece of abrasive materials of Hagan will not all have the same size allowing some of the pieces to have larger status and some of the piece to have a small status, Hagan teaches the use of two different abrasive materials (abstract). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Ishizuka with two different types of abrasive material, as taught by Hagan, to allow for improved tool life.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka. Ishizuka discloses the invention including a saw blade (Column 1, Technical Field) comprising a corrugated shaped blade of substantially uniform thickness (Fig. 3B)

comprising a matrix material (Fig. 1), large abrasive particles encapsulated in the matrix material (33), small abrasive particles in the matrix material between and around the large abrasive particles (33, it is noted that all the portions labeled 33 are not exactly the same size. It is inherent that some of the items labeled 33 will be larger/smaller than other items labeled 33, therefore, 33 designates both large and small abrasive materials), the small abrasive particles being encapsulated in higher density by volume than the larger abrasive particles (it is inherent that the small abrasive particles are encapsulated in a higher density due to the fact that they incorporate a smaller surface area and therefore allow more of the smaller particles into a given area), the corrugated shaped blade comprising raised surfaces (Fig. 3B) and lowered surfaces parallel to and spaced laterally and longitudinally of the raised surfaces (Fig. 3B), and transition portions connecting the raised and lowered surfaces (Fig. 3B).

Ishizuka appears to disclose the depth of the corrugations is greater than the thickness of a wall by a ratio of greater than 3 to 1 in Figure 3B, however, Ishizuka does not actually disclose this ratio only a Figure that might not be to scale. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the depth of the corrugations be greater than the thickness of a wall by a ratio of greater than 3 to 1, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Ishizuka with corrugations with a depth greater than the thickness of a wall by a ratio of

greater than 3 to 1 to allow for the corrugations to have a specific shape and/or contain a desired amount of abrasive material.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Greenspan, Matsuda, Hariu, Sato et al., Ji, Takahashi et al. ('574), Tselesin, Eisenberg, Skeem et al., Perry, and Takahashi et al. ('098).

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Prone whose telephone number is (571) 272-4513. The examiner can normally be reached on 7:30-5:00, Mon - (every other) Fri.

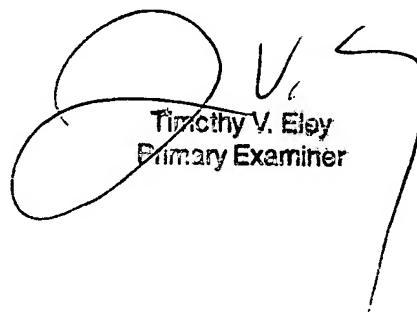


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N. Shoap can be reached on (571) 272-4514. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JP  
January 03, 2006



Timothy V. Eley  
Primary Examiner